

Title (en)
Star sensor using CCD.

Title (de)
Mit einer Ladungsgekoppelten Vorrichtung arbeitender Sterndetektor.

Title (fr)
Senseur d'étoile utilisant un dispositif à transfert de charge.

Publication
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Application
EP 84108827 A 19840725

Priority
JP 13612383 A 19830726

Abstract (en)
The invention relates to a star sensor for use in the attitude control of satellites. The star sensor comprises a charge-coupled device (12) for detecting the light rays of a star, a filter circuit (22) for filtering the output of said charge-coupled device (12), a zero-cross detector (23), a reference voltage generator (16) and a voltage comparator (24) for detecting the points where the voltage of the output of the filter circuit (22) is equal to a predetermined level, and an A/D converter (19), a multiplexer circuit (20) and a data processor circuit (21) for providing signals representative of the brightness and position of the star. The star sensor requires a buffer memory of small capacity and is capable of accurately determining the central position of the star image.

IPC 1-7
G01S 3/78

IPC 8 full level
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CPC (source: EP US)
G01S 3/784 (2013.01 - EP US); **G01S 3/7867** (2013.01 - EP US)

Citation (search report)

- [Y] US 4092670 A 19780530 - WITTKE ERNEST CARL
- [A] US 3852714 A 19741203 - CARSON J
- [YD] IFAC AUTOMATIC CONTROL IN SPACE, 1982, pages 289-295, Noordwijkerhout, NL; G. BORGHI et al.: "Star detection and tracking using CCDs"
- [A] IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT, vol. IM-26, no. 3, September 1977, pages 197-200, New York, USA; P.-F. CHEN et al.: "Automated astroposition determination using sensor array systems"

Cited by
CN111504310A; EP0205794A1; US4780719A; EP0405678A1; FR2649196A1; EP0709692A1; FR2726080A1; GB2252216A; US5225885A; EP0499320A1; FR2672989A1; US5227619A; US9593951B2

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